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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/633,357

Applicant(s)

HEDLUND ET AL.

Examiner

JUSTIN M. PATS

Art Unit

3623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 May 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 3-22 and 25-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-22, 25-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Notice to Applicant

1. The following is a non-final, second office action. In response to the communication of 2/28/08, Applicant, on 5/28/08, amended claims 1, 21, 30–31, and the specification. Applicant also cancelled claims 2, 23, and 24. These amendments and cancellations have been entered. Claims 1, 3–22, and 25–34 are pending in this application and have been rejected below.

Response to Amendment

2. The objection to the specification in the office action of 2/28/08 is hereby withdrawn in light of Applicant's amendments of 5/28/08.

3. The rejection of claims 30-31 under 35 U.S.C. 112, second paragraph of 2/28/08 is hereby withdrawn in light of Applicant's amendments of 5/28/08.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 1–20 are directed to non-statutory subject matter because they fail to meet the legal requirements of a 'process'. The first step in determining whether a claim recites patent eligible subject matter is to determine whether the claim falls within one of the four statutory categories of invention recited in 35 U.S.C. § 101: a process, machine, manufacture and composition of matter. The latter three categories define "things" or "products," while a "process" consists of a series of steps or acts to be performed. For the purposes of § 101, federal case precedent has given a "process" a specialized, and limited meaning. *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780,787-88 (1876). A § 101 process must either (1) be tied to another statutory class (such as a particular apparatus) or (2) transform underlying subject matter (such as an article or materials) to a different state or thing. If neither of these requirements is met by the claim, the method is not a patent eligible process under § 101. Here, claim 1 merely processes, creates, and refines data. These process steps are not tied to another statutory class, nor is there a transformation of the data pertinent to the claim. Applicant's recitation *in the preamble* of claim 1 of a "computer-implemented" method does not demonstrate a sufficient structural nexus. The nexus must exist in the body of the claim. Thus, the method of claim 1 is not a patent eligible process under § 101.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 3–14, 16, 19–22, 26–31, and 33–34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fields et al. (U.S. Pat. No. 5,111,391) in view of Andre et al. (U.S. Pub. No. 2002/0143597 A1) further in view of a public use of Click2Staff software, as evidenced by *Employee Scheduling Becomes More Complex*, Credit Union Times, March 13, 2002, pg. 1–4 [hereinafter *Employee Scheduling*]; Berkofsky, *Banks to Start Embracing Workforce Technology*, Bank Systems & Technology, 2002, pg. 1–3; Norton-Miller, *GECU Saves Money With ASP Staffing Model*, microbanker.com, Feb 2003, pg. 1–4; *Wells Using Traffic Prediction Software*, American Banker, Sept. 13, 2002, 1 pg. [hereinafter *Wells*]; and *Exametric's Click2Staff to Optimize Workforce at First Hawaiian Bank*, Exametric.com, Nov. 11, 2002, pg. 1–2 [hereinafter *Hawaiian Bank*].

8. Regarding to claim 1, Fields et al. discloses the invention substantially as claimed. Fields et al. discloses a computer implemented method for automatically generating an optimized workforce schedule (column 1, lines 9–14), comprising: creating an initial (i.e. preliminary) workforce schedule (column 4, line 36) based on past schedules (i.e. historical data) (column 1,

line 9-12) and employee attributes (i.e. skills) (column 4, lines 38-40); and refining the initial workforce schedule to generate an optimized workforce schedule based on the initial workforce schedule (column 5, line 8-10). However, Fields et al. does not explicitly disclose generating an optimized workforce schedule based on forecasted demand and employee preferences. Andre et al. discloses generating an optimized workforce schedule based on forecasted demand (i.e. workload) (paragraph [0025], lines 7-9) and employee preferences (paragraph [0019], lines 5-7). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the method of Fields et al. with the feature of generating an optimized workforce schedule based on forecasted demand and employee preferences as taught by Andre et al., as both Fields et al. and Andre et al. are directed to a computer implemented method for automatically generating an optimized workforce schedule. The motivation for doing so would have been to refine the initial workforce schedule based on forecasted demand and employee preferences to make it more accurate and dependable, thus saving the company money by using resources efficiently. Moreover, it would have been obvious to one of ordinary skill in the art to include in the automatic workforce schedule generators of Fields et al. the demand and employee preference techniques of Andre et al. since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Fields et al. in view of Andre et al. does not explicitly teach the remaining limitations of claim 1. Click2Staff in the analogous art of staff forecasting and scheduling teaches a staff scheduler processing past schedules using a pattern recognition procedure to recognize historical

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shift patterns for a particular position indicated in the past schedules (Wells, pg. 1, "the software uses algorithms based on historical data to determine what days and times a branch is busy so that it can be staffed appropriately."; Berkofsky, pg. 1, "The electronic files get regenerated each month using accumulated historical staffing and customer data, enabling the system to produce even more accurate results. . . . the Exametric product had detected a shift in customer traffic from afternoon to morning hours before she did, enabling her to shift resources accordingly."; Norton Miller, pg. 2 and associate figures, "With a full year's transaction data now in the Click2Staff database, we have found the forecasting tool to be very accurate."), wherein the historical shift patterns comprise a resource dependent shift pattern (Berkofsky, pg. 1, "the Exametric product had detected a shift in customer traffic from afternoon to morning hours before she did, enabling her to shift resources accordingly."; Employee Scheduling, pg. 2, "Exametric has developed Click2Staff, an automated system aimed at scheduling the right people with the right skills at the right time.", pg. 3, "It shows you how many bodies you need, and starts filling in the schedule. The color turns to a shade of green to let you know you've met your staffing requirements for that particular hour or group of hours," Mann says."), a time dependent shift pattern (Wells, pg. 1, "the software uses algorithms based on historical data to determine what days and times a branch is busy so that it can be staffed appropriately."; Berkofsky, pg. 1, "the Exametric product had detected a shift in customer traffic from afternoon to morning hours before she did, enabling her to shift resources accordingly."; Employee Scheduler, pg. 2, "a branch manager can use the browser based system to quickly see blackout times when an employee is not available. It can also track an employee's hours based on the fact that employee wants to work perhaps 20 hours a week. 'A part-time person might be a floater

who goes from one branch location to another. They become part of the resource pool,' Grannick says. 'As a branch manager I might need someone who is not available as part of my regular staff. The system allows the flexibility for a part-time person to get all the hours they're looking for, and they may get those hours from multiple locations. The system can track that as well.'"), and a ratio dependent shift pattern (Berkofsky, pg. 1, "the Exametric product had detected a shift in customer traffic from afternoon to morning hours before she did, enabling her to shift resources accordingly." This states that Click2Staff software detected that morning hour positions required more resources than afternoon hour positions; thus demonstrating a ratio of greater than 1 between morning and afternoon staffing), so as to create a workforce schedule (Hawaiian Bank, pg. 1, "Internet. Using its industry leading patent- pending queuing algorithms, Click2Staff will analyze the transaction volume at each branch, predict future volumes with 97% accuracy, and subsequently schedule staff based on their skill levels and their personal preferences."; pg. 2, "Click2Staff is a web-based employee forecasting and scheduling tool that predicts the transaction volume of branches, call centers, and any staffing situation that requires customer interaction. Its ability to forecast and schedule in precise increments delivers a staffing schedule that is responsive to varying customer demand, changing staff availability and preferences, budgetary considerations, shift length and break rules.").

It would have been obvious to one of ordinary skill in the art to include in the automatic workforce schedule generators of Fields et al. and Andre et al. shift-pattern techniques of Click2Staff for the benefit of a more accurate staff schedule, saving the company money by reducing wasted resources. Moreover, it would have been obvious since the claimed invention is merely a combination of old elements, and in the combination each element merely would have

performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

9. Regarding to claim 3, Fields et al. discloses wherein employee attributes comprise an employee's skill set (column 1, line 36-37, column 4, lines 38-40).

10. Regarding to claim 4, Fields et al. and Andre et al. do not explicitly disclose wherein employee preferences comprise an employee's desired number of hours. Click2Staff teaches this (Employee Scheduling, pg. 1-2, "Jane wants to work part-time from 9 to 3 so she's home when her children arrive from school - except on Friday, when she needs to take her daughter to speech therapy. Jim can't work mornings, because he attends college classes then. It's the opposite of last semester, when his classes were only offered in the morning. The credit union needs to keep a close eye on Sally's schedule, because although she is a part-time employee she will soon have worked enough hours to qualify for full-time benefits. . . . 'For example, I have a programmer here who is a single father. He takes every Monday and Tuesday off at 1:45 p.m. because his daughter has medical appointments once in a while or piano lessons. This is not uncommon at all.' To help juggle an increasingly diverse set of employee and employer needs, Exametric has developed Click2Staff, an automated system aimed at scheduling the right people with the right skills at the right time. . . . [A] branch manager can use the browser based system to quickly see blackout times when an employee is not available. It can also track an employee's hours based on the fact that employee wants to work perhaps 20 hours a week. 'A part-time person might be a floater who goes from one branch location to another. They become part of the

resource pool,' Grannick says. 'As a branch manager I might need someone who is not available as part of my regular staff. The system allows the flexibility for a part-time person to get all the hours they're looking for, and they may get those hours from multiple locations. The system can track that as well.'").

It would have been obvious to one of ordinary skill in the art to include in the automatic workforce schedule generators of Fields et al. and Andre et al. employee hour preferences of Click2Staff for the benefit of a more accurate staff schedule, saving the company money by reducing wasted resources. Moreover, it would have been obvious since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

11. Regarding to claim 5, Fields et al. does not explicitly disclose wherein the refining step further comprises receiving a forecasted demand as input. Andre et al. discloses wherein the refining step further comprises receiving a forecasted demand (i.e. workload) as input (paragraph [0025], lines 7-9). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the method of Fields et al. with the feature of wherein the refining step further comprises receiving a forecasted demand as input as taught by Andre et al., as both Fields et al. and Andre et al. are directed to a computer implemented method for automatically generating an optimized workforce schedule. The motivation for doing so would have been to refine the initial workforce schedule based on forecasted demand and employee preferences to make it more accurate and dependable, thus saving the company money

by using resources efficiently. Moreover, it would have been obvious to one of ordinary skill in the art to include in the automatic workforce schedule generators of Fields et al. the demand and employee preference techniques of Andre et al. since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

12. Regarding to claim 6, Fields et al. and Andre et al. do not explicitly disclose wherein the forecasted demand is for a single employee position. Click2Staff teaches this limitation (Employee Scheduling, pg. 3-4, "She adds when a teller or other employee leaves the branch manager has a better idea of whether to hire a full-time or part-time replacement, and what hours of coverage are needed. When you look for your next candidate, you have that information up front.")

It would have been obvious to one of ordinary skill in the art to include in the automatic workforce schedule generators of Fields et al. and Andre et al. employee hour preferences of Click2Staff for the benefit of picking the best replacement for a particular position by having a more accurate scheduling forecast, making the company more efficient in the process. Moreover, it would have been obvious since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

13. Regarding to claim 7, Fields et al. does not explicitly disclose wherein the forecasted demand is for multiple employee positions. Andre et al. discloses wherein the forecasted demand (i.e. workload) is for multiple employee positions (i.e. staffing level) (paragraph [0025], lines 7-9 and 16-19). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the method of Fields et al. with the feature of wherein the forecasted demand is for multiple employee positions as taught by Andre et al., as Fields et al. and Andre et al. are directed to a computer implemented method for automatically generating an optimized workforce schedule. The motivation for doing so would have been to make for a more robust initial workforce schedule, thus saving the company time. Moreover, it would have been obvious to one of ordinary skill in the art to include in the automatic workforce schedule generators of Fields et al. the demand and employee preference techniques of Andre et al. since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

14. Regarding to claims 8 and 26, Fields et al. does not explicitly disclose wherein the refining step further comprises generating an optimized workforce schedule based on resource availability (as per claim 8) and wherein the scheduling server is further configured to consider resources availability when creating the initial workforce schedule (as per claim 26). Andre et al. discloses generating a workforce schedule based on variables such resource availability (i.e. available staff). Therefore, it would have been obvious to one having ordinary skill in the art at

the time the invention was made to combine the method and system of Fields et al. with the feature of wherein the refining step further comprises generating an optimized workforce schedule based on resource availability (as per claim 8) and wherein the scheduling server is further configured to consider resources availability when creating the initial workforce schedule (as per claim 26) as taught by Andre et al., as both Fields et al. and Andre et al. are directed to a computer implemented method and system for automatically generating an optimized workforce schedule. The motivation for doing so would have been to optimize the initial workforce schedule based on availability to make it more accurate and dependable, thus saving the company money by using resources efficiently. Moreover, it would have been obvious to one of ordinary skill in the art to include in the automatic workforce schedule generators of Fields et al. the demand and employee preference techniques of Andre et al. since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

15. Regarding to claims 9 and 27, Fields et al. and Andre et al. do not explicitly disclose wherein the refining step further comprises generating an optimized workforce schedule based on a predefined number of work hours per week for an employee (as per claim 9) and wherein the scheduling server is further configured to consider a predefined number of work hours per week for an employee when creating the optimized workforce schedule (as per claim 27). Click2Staff teaches this limitation (Click2Staff, pg. 2, "It can also track an employee's hours based on the fact that employee wants to work perhaps 20 hours a week. 'A part-time person

might be a floater who goes from one branch location to another. They become part of the resource pool," Grannick says. "As a branch manager I might need someone who is not available as part of my regular staff. The system allows the flexibility for a part-time person to get all the hours they're looking for, and they may get those hours from multiple locations. The system can track that as well.")

It would have been obvious to one of ordinary skill in the art to include in the automatic workforce schedule generators of Fields et al. and Andre et al. predefined employee hours of Click2Staff for the benefit of a more accurate scheduling forecast, making the company more efficient and saving it money in the process. Moreover, it would have been obvious since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

16. Regarding to claims 10 and 29, Fields et al. and Andre et al. do not explicitly disclose wherein the refining step further comprises generating an optimized workforce schedule based on full time and part time employee availability (as per claim 10) and wherein the scheduling server is further configured to consider full time and part time employee availability when creating the optimized workforce schedule (as per claim 29).

Click2Staff teaches this (Hawaiian Bank, pg. 2, "Its ability to forecast and schedule in precise increments delivers a staffing schedule that is responsive to varying customer demand, changing staff availability and preferences, budgetary considerations, shift length and break rules."; Employee Scheduling, pg. 2, "says a branch manager can use the browser based system

to quickly see blackout times when an employee is not available.”; *see also generally id.* at 1–4, discussing part-time and full-time employee scenarios that Click2Staff is readily capable of handling)

It would have been obvious to one of ordinary skill in the art to include in the automatic workforce schedule generators of Fields et al. and Andre et al. predefined employee hours of Click2Staff for the benefit of a more flexible and thus more accurate scheduler, making the company more efficient and saving it money by enhanced resource allocation. Moreover, it would have been obvious since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

17. Regarding to claim 11, Fields et al. discloses the invention substantially as claimed. However, Fields et al. does not explicitly disclose receiving a modification to the optimized workforce schedule from a user. Andre et al. discloses receiving a modification (i.e. changes) to the schedule from a user (paragraph [0011], lines 12-15). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the method of Fields et al. with the feature of receiving a modification to the optimized workforce schedule from a user as taught by Andre et al., as both Fields et al. and Andre et al. are directed to a computer implemented method for automatically generating an optimized workforce schedule. The motivation for doing so would have been increased flexibility on the part of the user, making the analysis more efficient and robust. Moreover, it would have been obvious to one of ordinary

skill in the art to include in the automatic workforce schedule generators of Fields et al. the demand and employee preference techniques of Andre et al. since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

18. Regarding to claim 12, Fields et al. does not explicitly disclose wherein the modification is received via an input device configured to provide changes for a particular resource through a user interface. Andre et al. discloses modification is received via an input device (paragraph [0025], lines 1-4) configured to provide changes through a user interface (paragraph [0019], lines 3-5). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the method of Fields et al. with the feature of wherein the modification is received via an input device configured to provide changes for a particular resource through a user interface as taught by Andre et al., as both Fields et al. and Andre et al. are directed to a computer implemented method for automatically generating an optimized workforce schedule. The motivation for doing so would have been facilitated entry of data meaning quicker analysis times. Moreover, it would have been obvious since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

19. Regarding to claims 13 and 30, Fields et al. and Andre et al. do not explicitly disclose wherein the input device is a mouse (as per claim 13) and wherein the access station comprises a mouse input device that allows a user to modify an optimized workforce schedule (as per claim 30). Click2Staff at least suggests this limitation in its name alone, which implies the scheduling of a staff as the result of a click of a mouse. It would have been obvious to one of ordinary skill in the art to include in the automatic workforce schedule generators of Fields et al. and Andre et al. the mouseclick feature of Click2Staff for the benefit of a more user friendly scheduler, saving the company time by facilitated resource allocation. Moreover, it would have been obvious since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

20. Regarding to claims 14 and 31, Fields et al. discloses wherein the input device is a keyboard (as per claim 14) (column 8, lines 2-6) and wherein the access station comprises a keyboard input device (column 8, lines 2-6) that allows a user to modify an optimized workforce schedule (as per claim 31) (column 4, lines 29-31).

21. Regarding to claim 16, Fields et al. discloses wherein the resources selected for the initial workforce schedule are predefined (i.e. employee availability file) (column 6, lines 47-52).

22. Regarding to claim 19, Fields et al. discloses wherein employee resources are located in a centralized pool of resources (i.e. Employee Master File and Employee Availability File) (column 6, lines 38-42).

23. Regarding to claims 20 and 33, Fields et al. and Andre et al. do not explicitly disclose generating a color coded report to illustrate how closely the optimized workforce schedule is meeting the forecasted demand for a given position (as per claim 20) and a report generator configured to provide a color coded report identifying how close the optimized workforce schedule is meeting the forecasted demand for a given position (as per claim 33). Click2Staff teaches this (Norton-Miller, pg. 3, bottom figure) It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the method and system of Fields et al. and Andre et al. with the feature of generating a color coded report to illustrate how closely the optimized workforce schedule is meeting the forecasted demand for a given position (as per claim 20) and a report generator configured to provide a color coded report identifying how close the optimized workforce schedule is meeting the forecasted demand for a given position (as per claim 33) as taught by Martin, as all referenced prior art are directed to a computer implemented method and system for automatically generating an optimized workforce schedule. The motivation for doing so would have been make the results of the analysis easier to decipher and thus enable the company to make the best decisions more quickly, resulting in a more efficient organization.

24. Regarding to claim 21, Fields et al. discloses a system for automatically generating an

optimized workforce schedule (column 1, lines 9-14), comprising: a scheduling server (i.e. host computer) (column 7, lines 33 to column 8 lines 1-2); an access device communicatively coupled with the scheduling server over a data communications network (column 8, lines 2-8), the access device configured to allow a user to interact with the scheduling server (column 8, lines 2-8); a data storage area (column 8, lines 25-28) configured to store past schedules (i.e. historical data) (column 1, line 9-12) and employee attributes (i.e. skills) (column 4, lines 38-40); wherein the scheduling server creates an initial (i.e. preliminary) workforce schedule (column 4, line 36) based on said past schedules (i.e. historical data) (column 1, line 9-12) and employee attributes (i.e. skills) (column 4, lines 38-40); and wherein the scheduling server creates an optimized workforce schedule based on user input via the access device (column 5, lines 8-10, column 8, lines 2-8). However, Fields et al. does not disclose a data storage area configured to store forecasted demand and wherein the scheduling server creates an initial workforce scheduled based on forecasted demand. Andre et al. discloses forecasted demand (i.e. workload) (paragraph [0025], lines 7-9). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the system of Fields et al. with the feature of a data storage area configured to store forecasted demand and wherein the scheduling server creates an initial workforce scheduled based on forecasted demand as taught by Andre et al., as both Fields et al. and Andre et al. are directed to a system for automatically generating an optimized workforce schedule. The motivation for doing so would have faster data retrieval and better data organization as well as a more accurate and dependable scheduler, thus saving the company money by using resources efficiently. Moreover, it would have been obvious to one of ordinary skill in the art to include in the automatic workforce schedule generators of Fields et al.

the demand and data storage aspects of Andre et al. since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Fields et al. in view of Andre et al. does not explicitly teach the remaining limitations of claim 1. Click2Staff in the analogous art of staff forecasting and scheduling teaches a staff scheduler configured to process past schedules using a pattern recognition procedure to recognize historical shift patterns for a particular position indicated in the past schedules (Wells, pg. 1, "the software uses algorithms based on historical data to determine what days and times a branch is busy so that it can be staffed appropriately."; Berkofsky, pg. 1, "The electronic files get regenerated each month using accumulated historical staffing and customer data, enabling the system to produce even more accurate results. . . . the Exametric product had detected a shift in customer traffic from afternoon to morning hours before she did, enabling her to shift resources accordingly."; Norton Miller, pg. 2 and associate figures, "With a full year's transaction data now in the Click2Staff database, we have found the forecasting tool to be very accurate."), wherein the historical shift patterns comprise a resource dependent shift pattern (Berkofsky, pg. 1, "the Exametric product had detected a shift in customer traffic from afternoon to morning hours before she did, enabling her to shift resources accordingly."; Employee Scheduling, pg. 2, "Exametric has developed Click2Staff, an automated system aimed at scheduling the right people with the right skills at the right time.", pg. 3, "It shows you how many bodies you need, and starts filling in the schedule. The color turns to a shade of green to let you know you've met your staffing requirements for that particular hour or group of hours," Mann says."), a time

dependent shift pattern (Wells, pg. 1, "the software uses algorithms based on historical data to determine what days and times a branch is busy so that it can be staffed appropriately."; Berkofsky, pg. 1, "the Exametric product had detected a shift in customer traffic from afternoon to morning hours before she did, enabling her to shift resources accordingly."; Employee Scheduler, pg. 2, "a branch manager can use the browser based system to quickly see blackout times when an employee is not available. It can also track an employee's hours based on the fact that employee wants to work perhaps 20 hours a week. 'A part-time person might be a floater who goes from one branch location to another. They become part of the resource pool,' Grannick says. 'As a branch manager I might need someone who is not available as part of my regular staff. The system allows the flexibility for a part-time person to get all the hours they're looking for, and they may get those hours from multiple locations. The system can track that as well.'"), and a ratio dependent shift pattern (Berkofsky, pg. 1, "the Exametric product had detected a shift in customer traffic from afternoon to morning hours before she did, enabling her to shift resources accordingly." This states that Click2Staff software detected that morning hour positions required more resources than afternoon hour positions; thus demonstrating a ratio of greater than 1 between morning and afternoon staffing), so as to create a workforce schedule (Hawaiian Bank, pg. 1, "Internet. Using its industry leading patent- pending queuing algorithms, Click2Staff will analyze the transaction volume at each branch, predict future volumes with 97% accuracy, and subsequently schedule staff based on their skill levels and their personal preferences."; pg. 2, "Click2Staff is a web-based employee forecasting and scheduling tool that predicts the transaction volume of branches, call centers, and any staffing situation that requires customer interaction. Its ability to forecast and schedule in precise increments delivers a staffing

schedule that is responsive to varying customer demand, changing staff availability and preferences, budgetary considerations, shift length and break rules.”).

It would have been obvious to one of ordinary skill in the art to include in the automatic workforce schedule generators of Fields et al. and Andre et al. shift-pattern techniques of Click2Staff for the benefit of a more accurate staff schedule, saving the company money by reducing wasted resources. Moreover, it would have been obvious since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

25. Regarding to claim 22, Fields et al. does not explicitly disclose wherein the access device and the scheduling server are at different locations. Andre et al. discloses wherein the access device (i.e. client computers) and the scheduling server are at different locations (i.e. local area network/wide area network) (see fig. 1, paragraph [0017], lines 2-6). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the system of Fields et al. with the feature of wherein the access device and the scheduling server are at different locations as taught by Andre et al., as both Fields et al. and Andre et al. are directed to a system for automatically generating an optimized workforce schedule. The motivation for doing so would have been that the system (1) requires less processing power at one location because components are spread out and (2) is well organized such that the source of system failures are easier to pinpoint. Moreover, it would have been obvious since the claimed invention is merely a combination of old elements, and in the

combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

26. Regarding to claim 28, Fields et al. discloses wherein the scheduling server is further configured to consider an employee skill set when creating the optimized workforce schedule (column 5, lines 17-20).

27. Regarding to claim 34, Fields et al. does not explicitly disclose wherein the data storage area is coupled with a data server that is separate from the scheduling server. Andre et al. discloses client computers including data storage area (i.e. storage devices) that are coupled with a server (paragraph [0017], lines 2-7). Official Notice is taken that it is common knowledge in the prior art for the system to include data storage areas coupled to various servers (i.e. data server, scheduling server, etc). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the system of Fields et al. with the feature of wherein the data storage area is coupled with a data server that is separate from the scheduling server as taught by Andre et al., as both Fields et al. and Andre et al. are directed to the system for automatically generating an optimized workforce schedule. The motivation for doing so would have been to allocate the data to various servers instead of integrating them into multifunctional devices, which spreads out processing requirements and can allow the system to operate more smoothly. Moreover, it would have been obvious since the claimed invention is merely a combination of old elements, and in the combination each element merely would have

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performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

28. Claims 15, 17, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fields et al. (U.S. Pat. No. 5,111,391) in view of Andre et al. (U.S. Pub. No. 2002/0143597 A1) and further in view of a public use of Click2Staff software, as applied to claim 1 above, further in view of a public use of GMT Planet software, as evidenced by gmtcorp.com, GMTPlanet, 2001, retrieved from web.archive.org, <http://web.archive.org/web/20010415113036/www.gmtcorp.com/> [hereinafter GMTcorp.com].

29. Regarding to claims 15 and 32, Fields et al., Andre et al., and Click2Staff do not explicitly disclose wherein the forecasted demand comprises multiple forecasts for a particular position. GMTPlanet teaches this in the analogous art of automated workforce scheduling (GMTcorp.com, pg. 19, “Provides multiple full-time/part-time mixes to ensure the proper staffing complement for an outlet, i.e., four full –timers and six-part-timers”; pg. 24, What-If Modeling Capabilities).

It would have been obvious to one of ordinary skill in the art to include in the automatic workforce schedule generators of Fields et al., Andre et al., and Click2Staff, the multiple forecast aspect of GMTPlanet for the benefit of a more flexible and robust analysis, aiding a manager in finding the best schedule configuration for her employees, saving the company money by reducing wasted resources. Moreover, it would have been obvious since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

30. Regarding to claim 17, Fields et al., Andre et al., and Click2Staff do not explicitly disclose wherein the resources selected for the initial workforce schedule are dynamically selected. GMTPlanet teaches this concept (GMTcorp.com, pg. 22, top of page, discussing dynamic scheduling; Scheduling Agents).

It would have been obvious to one of ordinary skill in the art to include in the automatic workforce schedule generators of Fields et al. and Andre et al. the dynamic scheduling aspect of Click2Staff for the benefit of a more expedient scheduling of employees, saving the company time and money. Moreover, it would have been obvious since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

31. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fields et al. (U.S. Pat. No. 5,111,391) in view of Andre et al. (U.S. Pub. No. 2002/0143597 A1) further in view of Click2Staff, as applied to claim 1 above, further in view of Bucci et al. (U.S. Pat No. 6,823,315 B1).

Regarding to claim 18, Fields et al., Andre et al., and Click2Staff do not explicitly disclose wherein the refining step further comprises: creating an alternative schedule; comparing the alternative schedule to the initial schedule to determine the optimal schedule; and using the optimal schedule as the optimized workforce schedule. Bucci et al. discloses creating an alternative schedule (i.e. modified workforce schedule) (column 2, lines 21-22); comparing the alternative schedule to the initial schedule (i.e. trial schedule) to determine the optimal schedule (column 2, lines 24-25 and lines 38-44); and using the optimal schedule as the optimized workforce schedule (column 2, lines 45-47). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the method of Fields et al., Andre et al., and Click2Staff with the feature of wherein the refining step further comprises: creating an alternative schedule; comparing the alternative schedule to the initial schedule to determine the optimal schedule; and using the optimal schedule as the optimized workforce schedule as taught by Bucci et al., as all cited references. are directed to directed to a computer implemented method for automatically generating an optimized workforce schedule. The motivation for doing so would have been to select the workforce schedule that best meets the workforce requirements,

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thus providing for a more accurate schedule that saves a company money. Moreover, it would have been obvious since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

32. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fields et al. (U.S. Pat. No. 5,111,391) in view of Andre et al. (U.S. Pub. No. 2002/0143597 A1) further in view of Click2Staff, as applied to claim 21 above, further in view of Adhikari et al. (U.S. Pat. No. 7,222,082 B1).

Regarding to claim 25, Fields et al., Andre et al., and Click2Staff do not explicitly disclose wherein the access device allows a user to adjust the forecasted demand for an employee. Adhikari et al. disclose a user to adjust (i.e. edit) the forecasted demand (i.e. volume) (column 10, lines 53-54). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the system of Fields et al., Andre et al., and Click2Staff with the feature of wherein the access device allows a user to adjust the forecasted demand for an employee as taught by Adhikari et al, as all prior art references mentioned above are directed to a system for automatically generating an optimized workforce schedule. The motivation for doing so would have been to provide the user more flexibility and therefore enable her to create the best workforce schedule possible, saving the company time and money in the process. Moreover, it would have been obvious since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Response to Arguments

33. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

34. This Office action has an attached requirement for information under 37 C.F.R. § 1.105.

A complete response to this Office action must include a complete response to the attached requirement for information. The time period for reply to the attached requirement coincides with the time period for reply to this Office action.

35. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

A. *High-tech staff scheduling for banks*, HR Banker, Mar 1998, pg. 9–11.

B. *Kronos Smart Scheduler*, Frontline Labor Management Enterprise Information, 1999, pg. 1–24.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JUSTIN M. PATS whose telephone number is (571)270-1363. The examiner can normally be reached on Monday through Friday, 8:00am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Beth Boswell can be reached on 571-272-6737. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Justin M Pats/
Examiner, Art Unit 3623

/Beth V. Boswell/
Supervisory Patent Examiner, Art Unit 3623

Requirement for Information under 37 CFR 1.105

36. The following is a quotation of 37 C.F.R. 1.105:

(a)(1) In the course of examining or treating a matter in a pending or abandoned application filed under 35 U.S.C. 111 or 371 (including a reissue application), in a patent, or in a reexamination proceeding, the examiner or other Office employee may require the submission, from individuals identified under § 1.56(c), or any assignee, of such information as may be reasonably necessary to properly examine or treat the matter, for example: . . . (vii) In Use : Identification of any use of the claimed invention known to any of the inventors at the time the application was filed notwithstanding the date of the use . . . (viii) Technical information known to applicant . Technical information known to applicant concerning the related art, the disclosure, the claimed subject matter, other factual information pertinent to patentability, or concerning the accuracy of the examiner's stated interpretation of such items.

37. Applicant and the assignee of this application are required under 37 CFR 1.105 to provide the following information that the examiner has determined is reasonably necessary to the examination of this application:

38. The information is required to identify products and services embodying the disclosed subject matter of automatic staff scheduling based on shift patterns and identify the properties of similar products and services found in the prior art.

39. Assignee's (Exametric) prior art product, Click2Staff arguably possessed, *inter alia*, the functionality of automatic staff scheduling based on shift patterns more than a year before the instant application was filed. In order for the examiner to properly consider patentability of the claimed invention under 35 U.S.C. 102(b) and 103(a), additional information regarding this issue is required.

40. In response to this requirement, please (1) provide the citation and a copy of each publication which any of the applicants authored or co-authored and which describe the disclosed subject matter of automatic staff scheduling based on shift patterns; (2) provide the citation and copy of each publication that is a source used for the description of the prior art in the disclosure--for each publication, please provide a concise explanation of that publication's contribution to the description of the prior art; (3) provide the citation and a copy of each publication that any of the applicants relied upon to draft the claimed subject matter--for each publication, please provide a concise explanation of the reliance placed on that publication in distinguishing the claimed subject matter from the prior art; (4) provide the names of any products or services that have incorporated the claimed subject matter; and (5) state the specific improvements of the claimed subject matter over the disclosed prior art and indicate the specific elements in the claimed subject matter that provide those improvements--for those claims expressed as means or steps plus function, please provide the specific page and line numbers within the disclosure which describe the claimed structure and acts.

41. Applicant is reminded that failure to fully reply to this requirement for information will result in a holding of abandonment.

42. The applicant is also reminded that the reply to this requirement must be made with candor and good faith under 37 CFR 1.56. Where the applicant does not have or cannot readily

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obtain an item of required information, a statement that the item is unknown or cannot be readily obtained may be accepted as a complete reply to the requirement for that item. This requirement is an attachment of the enclosed Office action. A complete reply to the enclosed Office action must include a complete reply to this requirement. The time period for reply to this requirement coincides with the time period for reply to the enclosed Office action.

/Justin M Pats/
Examiner, Art Unit 3623

/Beth V. Boswell/
Supervisory Patent Examiner, Art Unit 3623